

REMARKS

Applicant has canceled claims 1-8 and 14.

Applicant has amended claims 9-13

Referring to the Examiner's comments relating to formal drawings on page 3 of the Office Action, Applicant points out that no drawings were submitted with this application.

Claims 9-13 are amended to include the term "isolated polynucleotide" as suggested by the Examiner.

In view of cancellation of claims 1-8 and 14, claim objections set forth on page 2 of the Office Action are overcome

On page 3 of the Office Action, the Examiner rejects claims 1-9 and 14 under 35 U.S.C. 101 because the claimed invention is not supported by either a specifically asserted utility or a well established utility. On page 7 of the Office Action, claims 1-9 and 14 are rejected under 35 U.S.C. 112, first paragraph. Applicant has canceled claims 1-8 and 14, and amended claim 9 to depend from claim 10, thereby obviating the need to respond to the Examiner's rejection of claims 1-9 and 14 under 35 U.S.C. 101 and 35 U.S.C. 112, first paragraph (pg. 7).

On page 7 of the Office Action, the Examiner rejected claims 1-14 under 35 U.S.C. 112, first paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As stated, claims 1-8 and 14 have been canceled. Therefore, Applicant restricts its remarks below to the rejections of claims 9-13.

On page 8 of the Office Action, claim 10, and claims that depend therefrom, were rejected as vague and indefinite in the recitation of "having a component sequence" and in the recitation of "which after alignment." Claim 10 has been amended to read:

10. (Amended) An isolated polynucleotide encoding a protein having the amino acid sequence given in SEQ ID NO: 2.

The standard for whether a claim is definite is whether a person skilled in the art, reading the claim in light of the specification, will reasonably be apprised of the claim scope. *In re Warmerdam*, 33 F.3d 1354 (Fed. Cir. 1994). Applicant has deleted the phrases "having a component sequence" and "which after alignment" from claim 10. Thus, a person skilled in the art, reading the claim in light of the specification, is reasonably apprised of the claim scope.

On page 9 of the Office Action, claim 9 was rejected as vague and indefinite. However, the Examiner helpfully suggested that Applicant recite the sequence as “operably linked” to specific promoters. Applicant has amended claim 9 as suggested by the Examiner.

Claim 12 stands rejected as being vague and indefinite due to recitation of “known RNA instability motifs.” In particular, the Examiner states that what is known by any one person as to RNA instability motifs is relative and fails to set forth the metes and bounds of the invention. In response, Applicant has deleted the word “known” from claim 12. Thus, it is now clear what is being recited in the claim, and one skilled in the art would understand its metes and bounds.

Claim 13 stands rejected as vague and indefinite because “transgenically expressing” is not an art recognized term. Applicant respectfully submits that the following amended claim 13 corrects this problem and is now definite.

13. A transgenic plant or plant comprising the isolated polypeptide according to claim 10.

Claims 1-9, and 13-14 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described sufficiently to enable one skilled in the art to make and/or use the invention (Pg. 9 of the Office Action). Applicant has canceled claims 1-8 and 14. Applicant addresses immediately below this rejection as it applies to amended claims 9 and 13.

Claim 10 is amended and is directed to a polynucleotide encoding the protein of SEQ ID NO: 2, which is described and listed in the Sequence Listing. Claim 13 is directed to a transgenic plant comprising a polynucleotide of claim 10. In view of the detailed description set forth regarding SEQ ID NO: 1, and the substantial knowledge and skill that is standard in the art with regard to transformation and plant breeding techniques, Applicant respectfully submits that claim 13 is enabled.

Amended claim 9 depends from claim 10, which is directed to a polynucleotide that encodes SEQ ID NO: 2, wherein said polynucleotide is operably linked to a promoter as is known in the art. The promoters listed in claim 9 are described on pages 9-13 and are also known to those skilled in the art. Applicant respectfully submits that the subject matter of claim 9 is enabled.

Claims 1-9 and 12-14 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention (Pg. 12 of the Office Action). As stated, claims 1-8 and 14 are canceled. Applicant will address the 35 U.S.C. 112, first paragraph rejections of amended claims 9, 12 and 13 only, which depend from amended claim 10. The Examiner states on page 13 that claim 12 is drawn to any modified nucleotide sequence. Applicant respectfully submits, in view of amended claim 10, that claim 12 is now drawn to modification of a specific DNA sequence, i.e., a polynucleotide that encodes SEQ ID NO: 2. Furthermore, those persons skilled in the art understand that inserted sequences may be modified to include codons that are preferred by the particular plant. This modification technique is standard in the art and the amount of experimentation to obtain the claimed preferred modifications would not be undue.

Claim 13 depends from amended claim 10. It is standard in the art to transform plants with particular events. Undue experimentation would not be needed. Applicant respectfully submits that the specification, in view of the substantial knowledge in the art, adequately describes the subject matter of claims 12 and 13.

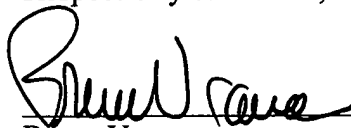
Claim 9 depends from claim 10, which recites a polynucleotide that encodes SEQ ID NO: 2, which is operably linked to a promoter as is known in the art. The promoters listed in claim 9 are adequately described on pages 9-13 and are also known to those skilled in the art. Applicant respectfully submits that the subject matter of claim 9 is described.

Claims 1-2, 8-9, and 14 stand rejected under 35 U.S.C. 102(b) as anticipated by Schmidt et al., in light of Shah et al. Claims 1-8 and 14 have been canceled. Claim 9 depends from claim 10. As neither Schmidt or Shah discloses SEQ ID NOS: 1 or 2, Applicant respectfully submits that amended claim 9 is not anticipated by these references and is in allowable condition.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made."

In view of the above amendments and remarks, it is submitted that the application is now ready for allowance. Early notice to this effect is now solicited. If any additional information is needed, the Examiner is invited to call the undersigned attorney at (919) 541-8614.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Bruce Vrana", is written over a horizontal line.

Bruce Vrana

Reg. No. 38,672

Attorney for Applicant

Phone: (919) 541-8614

Syngenta Biotechnology, Inc.

Patent Department

P.O. Box 12257

Research Triangle Park, NC 27709-2257

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Version With Markings T Show Changes Made

In the specification:

The first full paragraph on page 14 has been amended as follows:

The skilled ~~man~~ person who has the benefit of the present disclosure will also recognize that a SERK-interacting genes may be transformed into plant material which may be propagated and/or differentiated and used as an explant from which somatic embryos can be obtained. Expression of such sequences in the transformed tissue substantially increases the percentage of the cells in the tissue which are competent to form somatic embryos, in comparison with the number present in non-transformed like tissue.

The paragraph beginning after "EXAMPLES" on page 14 has been amended as follows:

--Example 1: *Isolation of Arabidopsis genes ~~endoeing~~ encoding proteins interacting with the Arabidopsis SERK gene product.*

In the claims:

Claims 1-8 and 14 have been cancelled.

Claims 9-13 have been amended as follows:

9. (Amended) The isolated polynucleotide gene ~~The method~~ according to claim 10, wherein said polynucleotide is operably linked to expression of the gene is under control of the SERK gene promoter, the carrot chitinase DcEP3-1 gene promoter, the Arabidopsis AtChitIV gene promoter, The Arabidopsis LTP-1 gene promoter, The Arabidopsis bel-1 gene promoter, the petunia fbp-7 gene promoter, the Arabidopsis ANT gene promoter or the promoter of the O126 gene of Phalaenopsis.
10. (Amended) An isolated polynucleotide gene encoding a protein having the amino acid sequence given in SEQ ID NO: 2, ~~SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 14, or SEQ ID NO: 16, or an amino acid sequence having a component sequence of at least 150 amino acids length which after alignment reveals at least 40% sequence identity with SEQ ID NO: 12 or SEQ ID NO: 16.~~

11. (Amended) ~~A gene~~ The isolated polynucleotide according to claim 10 having the nucleotide sequence given in SEQ ID NO: 1, ~~SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 13, or SEQ ID NO: 15.~~
12. (Amended) ~~A gene~~ The isolated polynucleotide according to claim 10 wherein the nucleotide sequence is modified in that ~~known~~ mRNA instability motifs or polyadenylation signals are removed and/or codons which are preferred by the plant into which the DNA is to be inserted are used.
13. (Amended) A transgenic plant or plant cell ~~transgenically expressing comprising~~ the isolated polynucleotide ~~gene~~ according to ~~any one of~~ claims 10-12.